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ABSTRACT

A study examined the institutional factors the influence whether or not adult agricultural education programs are offered in high schools. All Ohio secondary schools that offered vocational agriculture programs in agricultural production or farm business management during 1985-1986 (a total of 260 schools) were included in the study. Data were obtained from survey instruments that were mailed to superintendents, principals, and vocational agriculture instructors and from Ohio Department of Education records. Eighty-one percent of the 252 questionnaires mailed out were returned. Vocational agriculture instructors were found to be very important in schools' decision as to whether to offer an adult agricultural education program. High school principals were also important. Closely related to the influence of instructors and principals is the extent and nature of school policy about adult education as a function of the particular school. Schools offering young farmer programs usually claim that program as an adult agricultural education program for which reimbursement can be received from the Ohio Department of Education. Surprisingly, schools that offer agricultural education programs have fewer vocational agriculture instructors per school than do schools not offering such programs. Thus, consultation and advertisement efforts to establish an adult agricultural education program in a secondary school should focus on that school's administrators and instructors. (MN)

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FACTORS INFLUENCING THE OCCURRENCE OF ADULT AGRICULTURAL EDUCATION PROGRAMS

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INTRODUCTION

A question often posed is: Why should educational programs for adults be a part of vocational agriculture programs offered by high schools? Agricultural educators have addressed this question, and reasons have been reiterated for offering adult agricultural education programs (Hamlin, 1949; Hamonds, 1950; Morgan et al., 1976; Phipps, 1954; Newcomb et al., 1986). Major reasons presented for offering courses in agriculture for adults include (1) farmers and other persons in agriculture respond to adult courses if they have an opportunity to plan and manage the courses, (2) farm efficiency can be materially increased through adult education, (3) adults involved directly with the school or profiting directly from it are more likely to support the school, and (4) teaching adults is good for high school teachers of vocational agriculture.

Among the several factors that could influence whether or not a school offers an adult agricultural program are the attitudes and beliefs of superintendents, principals, and vocational agriculture instructors. The support of superintendents and local administrators for an adult program and their attitudes about and understanding of adult education have been documented as being associated with a school's offering or not offering an adult education program (Ekstrom and McClelland, 1952; Phipps, 1980; Loreen, 1958; Adelaine and Foster, 1987).

Proponents of adult agricultural education programs assert that teachers make or break programs for adults (Minich, 1956; Bender et al., 1972; Forsythe and Reece, 1981). It has been stated that "it is the vocational agriculture teacher who holds the critical role in determining whether a total program is offered or merely lip service is given to it" (Richardson, 1983) and that "a successful, quality young farmer/adult program depends directly upon the attitude, willingness to commit the necessary time, and dedication of the local vocational agriculture instructor" (Cavey, 1983).

Much of the research in adult education concerns the participation of adults in organized instruction. This research has emphasized situational and psychosocial barriers to participation, often overlooking institutional barriers. Research in adult education in agriculture fits this description also. Particularly lacking in agricultural education research is investigation of the impact of institutional barriers on whether or not a secondary school offering a vocational agriculture program also provides agricultural education programs for adults.

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PURPOSES AND OBJECTIVES

One purpose of the research reported in this paper was to study the institutional factors that may influence the occurrence of adult agricultural programs in secondary schools where vocational agriculture is taught. The specific objectives were to investigate the relationships between the occurrence of an adult agricultural education program and the following institutional variables: 1) the perceptions of superintendents, principals, and secondary vocational agriculture instructors toward the benefit, need, funding, and operation of an adult agricultural education program; 2) the perceptions of vocational agriculture instructors toward external and personal factors that influence whether or not they teach adults; 3) recent adult education experiences of superintendents, principals, and secondary vocational agricultural instructors; 4) the number of vocational agriculture instructors in the secondary school; 5) the provisions of local school policy pertaining to the adult agricultural education program; 6) the existence in the school of a Young Farmer program and the characteristics of the program; 7) the scope and nature of the secondary vocational agricultural education program in the school; and 8) the number of farms in the county.

PROCEDURES

The population was all secondary schools in Ohio that offered vocational agriculture programs in agricultural production or farm business management during 1985-86 - a total of 260 schools. The schools were stratified into two groups: those receiving reimbursement from the Ohio Department of Education for adult programs in production agriculture or farm management (Adult Program group), and schools that did not claim or receive reimbursement for adult agricultural education programs (No Adult Program group). Since data were collected during the 1986-87 school year, schools constituting the frame were those in which the superintendent, principal, and vocational agriculture instructor(s) in 1986-87 were the same individuals as in 1985-86. Consequently, the frame consisted of 178 schools - 89 in the Adult Program group and 89 in the No Adult Program group. A stratified random sample of 42 schools from each group was drawn.

Data were obtained from researcher-designed questionnaires and from official records in the Ohio Department of Education. Content validity of the questionnaires was established by a panel of experts. The questionnaires were pilot tested with a group of superintendents, principals, and vocational agriculture instructors in schools not included in the sample. Cronbach's alpha coefficients for the attitude scale items were .87 for superintendents, .81 for principals, and .76 for vocational agriculture instructors.

Data from superintendents, principals, and vocational agriculture instructors were collected by mail questionnaire using procedures suggested by Dillman (1978). Of the 252 questionnaires mailed, 81 percent were returned. Since the unit of analysis is a school, complete data for a school required that usable questionnaires be returned from the superintendent, principal, and at least one vocational agriculture

instructor in the school. Complete data, including usable questionnaires and data from records in the Ohio Department of Education, were available for 26 of the 42 schools in the Adult Program group and 20 of the 42 schools in the No Adult Program group.

For responses to questionnaire items, early, middle, and late respondents were compared with no significant differences between groups. Responses to the questionnaire of respondents from complete-unit schools (superintendent, principal, and vocational agriculture instructor responded) were compared also to respondents from schools where one or more of the individuals did not respond. This analysis did not reveal significant differences in the responses of superintendents, principals, or instructors between complete-unit schools and noncomplete-unit schools. Also, complete-unit schools were compared to noncomplete-unit schools on data collected from Ohio Department of Education records. These comparisons indicated no significant differences between the schools used in the analysis (complete-unit schools) and schools not used in the analysis (noncomplete-unit schools). The analyses reported in this paragraph indicate that nonresponse to the mail questionnaire is not a major threat to the external validity of the study.

RESULTS

Stepwise discriminant analysis was used to identify the variables investigated in the study that distinguish Adult Program schools from No Adult Program schools. Initially, stepwise discriminant analyses were performed on the following groups of variables: attitudes of superintendents, principals, and instructors; demographic characteristics of superintendents, principals, and instructors; young farmer program; and nature and size of the school's vocational agriculture program for secondary students. From each of these groups of variables, the variables that discriminate Adult Program schools from No Adult Program schools were combined with the additional variables number of vocational agriculture instructors, policy for adult education, and number of farms in the county. The final discriminate analysis used all of the variables to identify the characteristics that differentiate schools that offer adult agricultural education programs from schools that do not.

Attitudes of Superintendents, Principals, and Instructors

The group of attitude variables included 14 variables: attitudes of superintendents, principals, and instructors about benefits, need, funding, and operation of adult programs and the attitudes of instructors about external factors and personal factors that influence them to teach adults. Three of the 14 variables differentiate Adult Program schools from No Adult Program schools. Instructors in Adult Program schools indicated more strongly that adults should not pay fees for adult courses than instructors in No Adult Program schools. Both instructors and principals in Adult Program schools tended to have higher operation domain scores than did instructors in No Adult Program schools. Higher scores on the operation domain scale indicate that instructors and principals believe that vocational agriculture teachers are competent to teach adults, that instructors should teach adults, and

that vocational agriculture teachers have time to teach adults. All other variables in this group of 14 did not contribute significantly to the discrimination between the two groups of schools.

Demographic Variables

Eight demographic characteristics of superintendents, principals, and vocational agriculture instructors were investigated. The variables were whether or not superintendents, principals, and instructors had experience in teaching adults during the past three years, whether they had received instruction in teaching or administering adult education programs during the past three years, the number of years instructors had taught vocational agriculture, and the number of years vocational agriculture instructors had taught adults. Four of these variables were found to discriminate Adult Program schools from No Adult Program schools.

A higher percentage of principals in schools with an adult program had received instruction in teaching or administering adult education programs during the past three years than was the case for principals in schools without an adult program. A higher percentage of the vocational agriculture instructors in the Adult Program schools had taught adults within the past three years than instructors in the No Adult Program schools. Also, instructors in schools offering adult courses have a higher average number of years teaching adults and a lower average number of years teaching vocational agriculture when compared to instructors in schools that did not offer adult courses.

Young Farmer Program

Both variables comprising the young farmer group differentiate Adult Program schools from No Adult Program schools. A higher percentage of the schools with adult programs reported the use of the adult program as the young farmer educational program. No Adult Program schools had a higher percentage of schools with a YF program that were not claimed as an adult program for reimbursement (6 of 20 schools) than Adult Program Schools (2 of 16 schools).

Scope and Nature of Secondary School Program

Three variables described the scope and nature of the high school vocational agriculture program in the schools. These variables were enrollment in vocational agriculture, average number of supervised occupational experience instructional visits per student, and the level of activity of the school's FFA chapter. Only one of the three variables differentiates Adult Program schools from No Adult Program schools. Schools with adult programs, when compared to schools without adult programs, tend to have a higher average number of supervised occupational experience instructional visits per student. The number of high school students enrolled in vocational agriculture and the level of activity of the FFA chapter do not differentiate Adult Program schools from No Adult Program schools.

Comparison of Adult Program Schools With No Adult Program Schools

In addition to the 10 variables identified above that discriminate Adult Program schools from No Adult Program schools, three additional variables were entered into the final stepwise discriminant analysis to identify what variables differentiate the two groups of schools. The three additional variables were number of vocational agriculture instructors in the school, number of farms in the county, and a policy index indicating whether there is district or school policy about adult education, whether policy speaks specifically about vocational agriculture instructors teaching adults, whether policy for adult education is written or unwritten, and the degree of agreement among superintendents, principals, and instructors about district and school policy for adult education.

From the list of 13 possible discriminating variables, the discriminant function resulting from stepwise discriminant analysis included eight variables that discriminate Adult Program schools from No Adult Program schools (Table 1). The discriminant function is statistically significant (Wilks' lambda = .331; $p < .001$) and 91 percent of the schools are classified correctly by the discriminant function.

Adult Program schools, when compared to No Adult Program schools, tended to (Table 2):

- be more likely to use the young farmer program as the adult agricultural program for which reimbursement was claimed from the Ohio Department of Education;
- have, in a higher percentage of cases, vocational agriculture instructors who had taught adults within the past three years;
- have, in a higher percentage of cases, principals who had received instruction in teaching or administering adult education programs within the past three years;
- have vocational agriculture instructors who had a higher average number of years teaching adults; and
- have higher policy index scores indicating to a greater extent the existence of district and school policy about adult education and a greater degree of agreement among superintendents, principals, and vocational agriculture instructors about the existence and nature of district and school policy for adult education.

No Adult Program schools, when compared to Adult Programs schools, tended to (Table 2):

- have a higher percentage of young farmer programs not claimed as the reimbursed adult program;
- have vocational agriculture instructors who indicated more strongly that adults should pay fees for adult agricultural education programs; and
- have a higher number of high school vocational agriculture instructors per school.

CONCLUSIONS AND RECOMMENDATIONS

The following is concluded about the influence of certain factors on whether or not high schools offering vocational agriculture in Ohio also

offer an adult education program in agriculture for which they claim reimbursement from the Ohio Department of Education.

- Vocational agriculture instructors are important in a school's decision to offer or not offer an adult education program. It is concluded that the attitudes of instructors, particularly their attitude toward the adults' role in funding adult programs, the instructor's recent experience in teaching adults, and the number of years they have taught adults are particularly important in differentiating schools offering adult education programs from schools that do not.

- High school principals are also important. From this research, it is concluded that schools offering adult education programs are more likely to be staffed by principals who have recently received instruction about adult educaiton.

- Closely related to the influence of instructors and principals is the extent and nature of policy about adult education as a function of the school. The more explicit policy there is in a school and the greater the agreement between administrators and instructors about this policy the more likely the school is to offer adult courses.

- If a school offers a young farmer program, the school usually claims that program as the adult education program for which reimbursement is received from the Ohio Department of Education.

- Contrary to what might be expected, the research revealed that schools offering adult programs have fewer vocational agriculture instructors per school than schools that do not offer an adult program. This conclusion is consistent with the finding that the nature and scope of the high school vocational agriculture program in the school is not a significant factor in differentiating schools that offer adult programs.

These conclusions lead to the following recommendations. In Ohio, state department of education personnel and teacher educators should be cognizant of the following in designing strategies and activities to improve and expand the offering of adult education in agriculture by high schools that provide vocational agriculture programs.

- When working with schools regarding adult education, it is important that school administrators, as well as vocational agriculture instructors, be the focus of consultation and advisement. Not only are the attitudes of principals and instructors important in the decision-making process, but both the existence and explicitness of policy regarding adult education as a function of the school are important in influencing whether or not an adult program is offered.

- The research confirms that the attitude, competence, and experience of vocational agriculture instructors in teaching adults are important in determining whether or not adult education is a part of the school's vocational agriculture program. Consequently, preservice and inservice instruction and supervision specific to planning, conducting, and evaluating adult education programs are essential if instructors are

to acquire and demonstrate the competence and commitment required to teach adults.

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TABLE 1

SUMMARY DATA FOR DISCRIMINANT FUNCTION

Discriminating Variables	Standardized Canonical Coefficients	Structure Coefficients
Adult Program Is the YF Program	.893	.501
Have Young Farmer Program	-.817	.232
Instructor Taught Adults	.709	.432
Principal Received Instruction	.423	.090
Years Instructor Taught Adults	.374	.393
Instructor Attitude: Funding	-.400	-.280
Policy Index	.327	.295
Number Vo-Ag Instructors	-.389	-.109

Eigenvalue = 2.02; Canonical correlation = .82
Wilks' lambda = .331 ($p<.001$)

Group	Number of Cases	Predicted Group Membership	
		Group 1	Group 2
1 Adult Program	26	24 92.3%	2 7.7%
2 No Adult Program	20	2 10.0%	18 90.0%

Percent cases correctly classified = 91.3%

TABLE 2

CHARACTERISTICS OF ADULT PROGRAM SCHOOLS AND NO ADULT PROGRAMS SCHOOLS ON DISCRIMINATING VARIABLES

Variable	Adult Program (n=26)	No Adult Program (n=20)
YF Program is the Reimbursed Adult Education Program	53.8%	0.0%
YF Program Not Claimed as Reimbursed Adult Program	12.5%	30.0%
Instructor Taught Adults Last Three Years	100.0%	60.0%
Principal Received Instruction About Adults Last Three Years	19.2%	10.0%
Years Instructors Have Taught Adults (Mean)	13.0	5.5
Instructor Attitude: Funding (Mean Score[a])	4.9	6.1
Policy Index (Mean Score[b])	3.54	1.75
Number Vo-Ag Instructors Per School (Mean)	1.23	1.40

[a]Higher scores indicate that adults enrolled should pay fees. Minimum possible score = 2; Maximum possible score = 10.

[b]Higher scores indicate more explicit district and school policy for adult education and a higher degree of agreement among superintendents, principals, and instructors about policy. Minimum possible score = 1; maximum possible score = 7.